NAME OF WORK : IMPROVEMENTS AND RESTORATION OF ROAD IN WARD NO. 05 (PACKAGE 01) (PACKAGE CONSISTS OF 6 WORKS).

Quality Control Reports

Third and Final Bill

(Book No: 03)

QC ABSTRACT

NAME OF WORK: Improvements and Restoration of Roads in Ward NO. 05 (Package 01) Package Consists of 6 Works).

L NO	Item Of Work	Name of Test	Frequency of Test/Quantity	Executed Quantity	Number of Tests Required	Number of Tests Conducted
		Materials				
1	WMM	Sieve Analysis	One Test		1	1
		Impact Value	One Test		1	1
		Flakiness Index	One Test		1	1
		Elongation Index	One Test		1	1
2	BM	SIEVE ANALYSIS	One Test		1	1
		STRIPPING VALUE	One Test		1	1
		Flakiness Index	One Test		1	1
		Elongation Index	One Test		1	1
		IMPACT VALUE	One Test		1	1
		Specific gravity	One Test		1	1
		Water Absorption	One Test		1	1
		Marshal Stability	One Test		1	1
		Marshal flow	One Test		1	1
		Percent air Voids	One Test		1	1
		Percent Voids in mineral Aggregate	One Test		1	1
		Percent Voids filled with Bitumen	One Test		1	1
		Density	One Test		1	1
		Gradation	One Test		1	1
3	BC	SIEVE ANALYSIS	One Test		1	1
		STRIPPING VALUE	One Test		1	1
		Flakiness Index	One Test		1	1
		Elongation Index	One Test		1	1
		IMPACT VALUE	One Test		1	1
		Specific gravity	One Test		1	1
		Water Absorption	One Test		1	1
		Marshal Stability	One Test		1	1
		Marshal flow	One Test		1	1
		Percent air Voids	One Test		1	1
		Percent Voids in mineral	One Test		1	1
		Percent Voids filled with Bitumen	One Test		1	1
		Density	One Test		1	1
		Gradation	One Test		1	1
4	BITUMEN	Ductility	One Test		1	1
		Softening Point	One Test		1	1
		Penetration	One Test		1	1
		Flash Point	One Test		1	1
		Fire Point	One Test		1	1
5	TACK COAT	Rate of spread	One Test		1	1

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TEST RESULTS OF GRADATION FOR WMM

Lab ID : **CP-2023-07-17-24** **Date: 21-01-23**

Project Name : Improvements and Restoration of Roads in Ward NO. 05 (Package 01) (Package Consists of 6 Works).

Agency : Sri.K.R Santhosh Kumar , No:4, Samrudhi, AVR Block 1st, A Main , Dhanalakshmi Layout, Virupakshapura, Bangalore-560097

Customer Reference : BBMP/EE/BTP/WO/48/2022-23

Date of Receipt : 19-01-23

Type of Mix : WMM (Wet Mix Macadam)

Date of test : 19-01-23

Oven Dry Weight : 11000 Grams

IS Sieve Size(mm)	Weight Retained (gm)	Cumulative Weight Retained (gm)	% Cumulative Weight Retained	% Passing	Spec.I.Vide Table 400.13 MORTH Specification
53	0	0	0.0	100.0	100
45	318	318	2.9	97.1	95-100
22.4	2275	2593	23.6	76.4	60-80
11.2	2168	4761	43.3	56.7	40-60
4.75	2281	7042	64.0	36.0	25-40
2.36	1630	8672	78.8	21.2	15-30
0.6	628	9300	84.5	15.5	8-22
0.075	1341	10641	96.7	3.3	0-5

* The results obtained are satisfactory as per standard requirements.

CIVIL Pro Sig..... Date..... BANGALORE

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WATER TESTING | GEO TECHNICAL | PROJECT MANAGEMENT | SURVEYING SERVICES

TEST RESULTS OF GRADATION FOR WMM

Lab ID : **CP-2023-07-17-24** **Date: 21-01-23**

Project Name : Improvements and Restoration of Roads in Ward NO. 05 (Package 01) (Package Consists of 6 Works).

Agency : Sri.K.R Santhosh Kumar , No:4, Samrudhi, AVR Block 1st, A Main , Dhanalakshmi Layout, Virupakshapura, Bangalore-560097

Customer Reference : BBMP/EE/BTP/WO/48/2022-23

Date of Receipt : 19-01-23

Type of Mix : WMM (Wet Mix Macadam)

Date of test : 19-01-23

Oven Dry Weight : 11000 Grams

IS Sieve Size(mm)	Weight Retained (gm)	Cumulative Weight Retained (gm)	% Cumulative Weight Retained	% Passing	Spec.I.Vide Table 400.13 MORTH Specification
53	0	0	0.0	100.0	100
45	329	329	3.0	97.0	95-100
22.4	2280	2609	23.7	76.3	60-80
11.2	2160	4769	43.4	56.6	40-60
4.75	2281	7050	64.1	35.9	25-40
2.36	1645	8695	79.0	21.0	15-30
0.6	619	9314	84.7	15.3	8-22
0.075	1344	10658	96.9	3.1	0-5

* The results obtained are satisfactory as per standard requirements.

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TEST RESULTS OF GRADATION FOR WMM

Lab ID : **CP-2023-07-17-24** **Date: 21-01-23**

Project Name : Improvements and Restoration of Roads in Ward NO. 05 (Package 01) (Package Consists of 6 Works).

Agency : Sri.K.R Santhosh Kumar , No:4, Samrudhi, AVR Block 1st, A Main , Dhanalakshmi Layout, Virupakshapura, Bangalore-560097

Customer Reference : BBMP/EE/BTP/WO/48/2022-23

Date of Receipt : 19-01-23

Type of Mix : WMM (Wet Mix Macadam)

Date of test : 19-01-23

Oven Dry Weight : 11000 Grams

IS Sieve Size(mm)	Weight Retained (gm)	Cumulative Weight Retained (gm)	% Cumulative Weight Retained	% Passing	Spec.I.Vide Table 400.13 MORTH Specification
53	0	0	0.0	100.0	100
45	312	312	2.8	97.2	95-100
22.4	2278	2590	23.5	76.5	60-80
11.2	2168	4758	43.3	56.7	40-60
4.75	2282	7040	64.0	36.0	25-40
2.36	1634	8674	78.9	21.1	15-30
0.6	627	9301	84.6	15.4	8-22
0.075	1380	10681	97.1	2.9	0-5

* The results obtained are satisfactory as per standard requirements.

CIVIL Pro Sig..... Date..... BANGALORE

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TEST REPORT OF AGGEGRATE IMPACT VALUE
IS: 2386 Part IV

Date: 21-01-23

Lab ID	:	**CP-2023-07-17-24**
Project Name	:	Improvements and Restoration of Roads in Ward NO. 05 (Package 01) (Package Consists of 6 Works).
Agency	:	Sri.K.R Santhosh Kumar , No:4, Samrudhi, AVR Block 1st, A Main , Dhanalakshmi Layout, Virupakshapura, Bangalore-560097
Customer Reference	:	BBMP/EE/BTP/WO/48/2022-23
Date of Receipt	:	19-01-23
Type of Mix	:	Coarse Aggregate for WMM (Wet Mix Macadam)
Date of test	:	19-01-23

Sl.No	Particulars of observations	Index	TEST 1	TEST 2
1	Total weight of the surface dry sample sample (passing 12.5 mm and retained on 10mm sieve)	A	300.2	300.2
2	Weight of fraction passing 2.36mm sieve After giving 15 blows	B	73.9	74.0
3	weight of fraction retained 2.36mm sieve After giving 15 blows	C	225.9	225.8
4	Total weight of (B+C) is less than the initial weight (Weight A) by more than one gram the result shall be discarded and a fresh test made.	A-(B+C)	0.4	0.4
5	Aggregate impact value	(B/A)*100	24.6	24.7
6	Aggregate impact value (Mean of two tests)	Pecentage	24.6	

* The results obtained are satisfactory as per standard requirements.

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DETERMINATION OF FLAKINESS INDEX AND ELONGATION INDEX OF COARSE AGGREGATE(IS 2386 (Part 1) 1963 (RA 2007)

Date: 21-01-23

Lab ID : **CP-2023-07-17-24**

Project Name : Improvements and Restoration of Roads in Ward NO. 05 (Package 01) (Package Consists of 6 Works).

Agency : Sri.K.R Santhosh Kumar , No:4, Samrudhi, AVR Block 1st, A Main , Dhanalakshmi Layout, Virupakshapura, Bangalore-560097

Customer Reference : BBMP/EE/BTP/WO/48/2022-23

Date of Receipt : 19-01-23

Type of Mix : Coarse Aggregate for WMM (Wet Mix Macadam)

Date of test : 19-01-23

Result:

Index	Percentage of Flakiness and Elongation Index	Secified limits as per MORTH specification table 400-12
Flakiness Index	12.7%	Combined Flakiness & Elongation Index for WMM is Maximum 35%
Elongation Index	12.9%	
Combined Flakiness and Elongation Index for WMM	25.6%	

* The results obtained are satisfactory as per standard requirements.

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Format No: CP/TF/01

TEST REPORT ON BITUMEN

Lab ID : **CP-2023-07-17-24** **Date: 26-01-23**

Project Name : Improvements and Restoration of Roads in Ward NO. 05 (Package 01) (Package Consists of 6 Works).

Agency : Sri.K.R Santhosh Kumar , No:4, Samrudhi, AVR Block 1st, A Main , Dhanalakshmi Layout, Virupakshapura, Bangalore-560097

Customer's Reference : BBMP/EE/BTP/WO/48/2022-23

Date of Receipt : 24-01-23

Sample Type : Bitumen

Reference to BIS codes : IS: 1201-2021, IS: 1202-1220(1978) (Reaffirmed-2019)

Date of test : 24-01-23

Test Results

Sl.no	Name of Test	Result	Requirements as per IS:73-2013
1	Penetration at 25°C , in 1/10th mm	**66**	Min 45
2	Softening Point, °C	**51.4**	Min. 47°C
3	Ductility, cm	**98**	Min. 40 cm
4	Flash point, °C	**280**	Min. 220°C
	Fire point, °C	**292**	

* The results obtained are satisfactory as per standard requirements.

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TEST RESULTS OF GRADATION FOR BM
(IS 2386:(Part 1) 1963 (RA2011)

Lab ID : CP-2023-07-17-24 Date: 30-01-23

Project Name : Improvements and Restoration of Roads in Ward NO. 05 (Package 01) (Package Consists of 6 Works).

Agency : Sri.K.R Santhosh Kumar , No:4, Samrudhi, AVR Block 1st, A Main , Dhanalakshmi Layout, Virupakshapura, Bangalore-560097

Customer Reference : BBMP/EE/BTP/WO/48/2022-23

Date of Receipt : 28-01-23

Type of Mix : BM-Plant (Bituminous Macadam)

Date of test : 28-01-23

Weight of Sample(gm) : 5000

IS Sieve Size(mm)	Weight Retained(gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Specification Limits as per MORTH specification Table 500-7(grading -2)
26.5	0	0	0	100	100
19	167	167	3.3	96.7	90-100
13.2	515	682	13.6	86.4	56-88
4.75	2761	3443	68.9	31.1	16-36
2.36	907	4350	87.0	13.0	4-19
0.3	355	4705	94.1	5.9	2-10
0.075	235	4940	98.8	1.2	0-8
PAN	60	5000	100.0	0.0	0

* The results obtained are satisfactory as per standard requirements.

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PHYSICAL REQUIREMENTS FOR COARSE AGGREGATE FOR BITUMINOUS MACADAM

Date: 31-01-23

ab ID	:	**CP-2023-07-17-24**
roject Name	:	Improvements and Restoration of Roads in Ward NO. 05 (Package 01) (Package Consists of 6 Works).
gency	:	Sri.K.R Santhosh Kumar , No:4, Samrudhi, AVR Block 1st, A Main , Dhanalakshmi Layout, Virupakshapura, Bangalore-560097
ustomer Reference	:	BBMP/EE/BTP/WO/48/2022-23
ate of Receipt	:	28-01-23
ype of Mix	:	BM (Bituminous Macadam)
ate of test	:	28-01-23

Table 500-6 : Physical Requirements fo Coarse Aggregate for Bituminous Macadam

Property	Test	Result	Specification	Method of Test
Partical Shape	Flakiness Index	13.7	Combined Flakiness & Elongation Index for BM is Maximum 35%	IS:2386 Part I
	Elongation Index	7.4		
Strength	Aggregate Impact Value	25.4	Maximum 30%	IS:2386 Part IV
Specific gravity	Specific gravity	2.52	Maximum 2.7	IS:2386 Part III
Water Absorption	Water Absorption	0.17	Maximum 2%	IS:2386 Part III

The results obtained are satisfactory as per standard requirements.

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TEST REPORT OF AGGEGRATE STRIPPING VALUE OF ROAD AGGRGATE (IS:6241)

Lab ID : **CP-2023-07-17-24** **Date: 31-01-23**

Project Name : Improvements and Restoration of Roads in Ward NO. 05 (Package 01) (Package Consists of 6 Works).

Agency : Sri.K.R Santhosh Kumar , No:4, Samrudhi, AVR Block 1st, A Main , Dhanalakshmi Layout, Virupakshapura, Bangalore-560097

Customer Reference : BBMP/EE/BTP/WO/48/2022-23

Date of Receipt : 28-01-23

Type of Mix : BM(Bitumnous Macadam)

Date of test : 28-01-23

Type of Binder : 60/70

% of Binder Used : 3.4%

Weight of Aggregate : 200.0 gm

Weight of Binder : 6.8 gm

Temperature of water bath : 40°C

No of test	Retained Stripping Percentage	Stripping Percentage	Average Retained Stripping Percentage	Secified limits as per MORTH specification table 500-8
1	98.0	2.0	98.2	Minimum Retained Coating 95%
2	98.5	1.5		
3	98.0	2.0		

* The results obtained are satisfactory as per standard requirements.

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KARTHIK RECHAN
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Quality Manager

****End of Report****

TESTS RESULTS ON STABILITY OF MIX

Lab ID : **CP-2023-07-17-24** **Date: 31-01-23**

Project Name : Improvements and Restoration of Roads in Ward NO. 05 (Package 01) (Package Consists of 6 Works).

Agency : Sri.K.R Santhosh Kumar , No:4, Samrudhi, AVR Block 1st, A Main , Dhanalakshmi Layout, Virupakshapura, Bangalore-560097

Customer Reference : BBMP/EE/BTP/WO/48/2022-23

Date of Receipt : 28-01-23

Type of Mix : BM (Bituminous Mecadam)

Date of test : 28-01-23

The results of the tests conducted on the Bituminous Macadam mix sample are as follow

Sl.No	Particulars of observations	TEST 1	TEST 2	Secified limits as per MORTH specification table 500-11
1	Marshal Stability at 60°C, KN	11.29	11.82	9KN(Min)
2	Marshal flow at 60°C, mm	3.54	3.87	2-4
3	Percent air Voids	4.56	4.17	3-5
4	Percent Voids in mineral Aggregate(VMA %)	14.54	14.76	13-15
5	Percent Voids filled with Bitumen(VFB %)	68.98	70.28	65-75
6	Density, g/cc	2.42	2.40	–

* The results obtained are satisfactory as per standard requirements.

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Quality Manager

End of Report

TEST RESULTS OF BITUMEN BINDAR CONTENT AND GRADATION FOR BM
(IS 2386:(Part 1) 1963 (RA2011)

Date: 07-02-23

Lab ID	:	**CP-2023-07-17-24**
Project Name	:	Improvements and Restoration of Roads in Ward NO. 05 (Package 01) (Package Consists of 6 Works).
Agency	:	Sri.K.R Santhosh Kumar , No:4, Samrudhi, AVR Block 1st, A Main , Dhanalakshmi Layout, Virupakshapura, Bangalore-560097
Customer Reference	:	BBMP/EE/BTP/WO/48/2022-23
Date of Receipt	:	06-02-23
Type of Mix	:	BM (Bituminous Macadam) - Nisarga Layout, 7th Cross, Zayan Travels Car Service Center Road
Date of test	:	06-02-23

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	W1	500	500
2	Weight of the sample After extraction	W2	485	484.5
3	Initial weight of Paper	W3	4	4
4	Final weight of Paper	W4	6	6
5	Increase in weight of Filter Paper	W5=W4-W3	2	2
6	Bitumen percentage	$\frac{W1-W2+W5}{W1} \times 100$	3.4	3.50
7	Average percentage	%	3.45	

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Lab ID : CP-2023-07-17-24

Date: 07-02-23

AFTER EXTRACTION(Trail-1)

Weight of Sample : 485 Grams

IS Sieve Size(mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Specification Limits as per MORTH specification Table 500-7(grading -2)
26.5	0	0	0.0	100.0	100
19	37	37	7.6	92.4	90-100
13.2	150	187	38.6	61.4	56-88
4.75	193	380	78.4	21.6	16-36
2.36	27	407	83.9	16.1	4-19
0.3	48	455	93.8	6.2	2-10
0.075	24	479	98.8	1.2	0-8

AFTER EXTRACTION(Trail-2)

Weight of Sample : 484.5 Grams

IS Sieve Size(mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Specification Limits as per MORTH specification Table 500-7(grading -2)
26.5	0	0	0.0	100.0	100
19	39	39	8.0	92.0	90-100
13.2	146	185	38.2	61.8	56-88
4.75	192	377	77.8	22.2	16-36
2.36	34	411	84.8	15.2	4-19
0.3	33	444	91.6	8.4	2-10
0.075	26	470	97.0	3.0	0-8

* The results obtained are satisfactory as per standard requirements.

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TEST RESULTS OF BITUMEN BINDAR CONTENT AND GRADATION FOR BM
(IS 2386:(Part 1) 1963 (RA2011)

Date: 04-02-23

Lab ID	:	**CP-2023-07-17-24**
Project Name	:	Improvements and Restoration of Roads in Ward NO. 05 (Package 01) (Package Consists of 6 Works).
Agency	:	Sri.K.R Santhosh Kumar , No:4, Samrudhi, AVR Block 1st, A Main , Dhanalakshmi Layout, Virupakshapura, Bangalore-560097
Customer Reference	:	BBMP/EE/BTP/WO/48/2022-23
Date of Receipt	:	03-02-23
Type of Mix	:	BM (Bituminous Macadam) - 5th Cross
Date of test	:	03-02-23

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	W1	500	500
2	Weight of the sample After extraction	W2	484.5	485
3	Initial weight of Paper	W3	4	4
4	Final weight of Paper	W4	6	6
5	Increase in weight of Filter Paper	W5=W4-W3	2	2
6	Bitumen percentage	$\frac{W1-W2+W5}{W1} \times 100$	3.5	3.40
7	Average percentage	%	3.45	

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Lab ID : CP-2023-07-17-24

Date: 04-02-23

AFTER EXTRACTION(Trail-1)

Weight of Sample : 484.5 Grams

IS Sieve Size(mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Specification Limits as per MORTH specification Table 500-7(grading -2)
26.5	0	0	0.0	100.0	100
19	40	40	8.3	91.7	90-100
13.2	151	191	39.4	60.6	56-88
4.75	165	356	73.5	26.5	16-36
2.36	52	408	84.2	15.8	4-19
0.3	40	448	92.5	7.5	2-10
0.075	20	468	96.6	3.4	0-8

AFTER EXTRACTION(Trail-2)

Weight of Sample : 485 Grams

IS Sieve Size(mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Specification Limits as per MORTH specification Table 500-7(grading -2)
26.5	0	0	0.0	100.0	100
19	41	41	8.5	91.5	90-100
13.2	153	194	40.0	60.0	56-88
4.75	199	393	81.0	19.0	16-36
2.36	33	426	87.8	12.2	4-19
0.3	32	458	94.4	5.6	2-10
0.075	16	474	97.7	2.3	0-8

* The results obtained are satisfactory as per standard requirements.

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Quality Manager

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TEST RESULTS OF BITUMEN BINDAR CONTENT AND GRADATION FOR BM
(IS 2386:(Part 1) 1963 (RA2011)

Date: 08-02-23

Lab ID	:	**CP-2023-07-17-24**
Project Name	:	Improvements and Restoration of Roads in Ward NO. 05 (Package 01) (Package Consists of 6 Works).
Agency	:	Sri.K.R Santhosh Kumar , No:4, Samrudhi, AVR Block 1st, A Main , Dhanalakshmi Layout, Virupakshapura, Bangalore-560097
Customer Reference	:	BBMP/EE/BTP/WO/48/2022-23
Date of Receipt	:	07-02-23
Type of Mix	:	BM (Bituminous Macadam) - Mithun White Pearl Apartment Road
Date of test	:	07-02-23

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	W1	500	500
2	Weight of the sample After extraction	W2	484	484.5
3	Initial weight of Paper	W3	4	4
4	Final weight of Paper	W4	6	6
5	Increase in weight of Filter Paper	W5=W4-W3	2	2
6	Bitumen percentage	$\frac{W1-W2+W5}{W1} \times 100$	3.6	3.50
7	Average percentage	%	3.55	

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Lab ID : **CP-2023-07-17-24** **Date: 08-02-23**

AFTER EXTRACTION(Trail-1)

Weight of Sample : 484 Grams

IS Sieve Size(mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Specification Limits as per MORTH specification Table 500-7(grading -2)
26.5	0	0	0.0	100.0	100
19	35	35	7.2	92.8	90-100
13.2	154	189	39.0	61.0	56-88
4.75	196	385	79.5	20.5	16-36
2.36	29	414	85.5	14.5	4-19
0.3	33	447	92.4	7.6	2-10
0.075	32	479	99.0	1.0	0-8

AFTER EXTRACTION(Trail-2)

Weight of Sample : 484.5 Grams

IS Sieve Size(mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Specification Limits as per MORTH specification Table 500-7(grading -2)
26.5	0	0	0.0	100.0	100
19	42	42	8.7	91.3	90-100
13.2	158	200	41.3	58.7	56-88
4.75	191	391	80.7	19.3	16-36
2.36	33	424	87.5	12.5	4-19
0.3	35	459	94.7	5.3	2-10
0.075	12	471	97.2	2.8	0-8

* The results obtained are satisfactory as per standard requirements.

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TEST RESULTS OF BITUMEN BINDAR CONTENT AND GRADATION FOR BM
(IS 2386:(Part 1) 1963 (RA2011)

Date: 28-06-23

Lab ID	:	**CP-2023-07-17-24**
Project Name	:	Improvements and Restoration of Roads in Ward NO. 05 (Package 01) (Package Consists of 6 Works).
Agency	:	Sri.K.R Santhosh Kumar , No:4, Samrudhi, AVR Block 1st, A Main , Dhanalakshmi Layout, Virupakshapura, Bangalore-560097
Customer Reference	:	BBMP/EE/BTP/WO/48/2022-23
Date of Receipt	:	27-06-23
Type of Mix	:	BM (Bituminous Macadam) - Venkateshwara Nagar Mituna Apartment Opp Road
Date of test	:	27-06-23

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	W1	500	500
2	Weight of the sample After extraction	W2	484	485
3	Initial weight of Paper	W3	4	4
4	Final weight of Paper	W4	6	6
5	Increase in weight of Filter Paper	W5=W4-W3	2	2
6	Bitumen percentage	$\frac{W1-W2+W5}{W1} \times 100$	3.6	3.40
7	Average percentage	%	3.50	

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Authorized Signatory
Quality Manager

Lab ID : CP-2023-07-17-24 Date: 28-06-23

AFTER EXTRACTION(Trail-1)

Weight of Sample : 484 Grams

IS Sieve Size(mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Specification Limits as per MORTH specification Table 500-7(grading -2)
26.5	0	0	0.0	100.0	100
19	34	34	7.0	93.0	90-100
13.2	151	185	38.2	61.8	56-88
4.75	198	383	79.1	20.9	16-36
2.36	33	416	86.0	14.0	4-19
0.3	33	449	92.8	7.2	2-10
0.075	21	470	97.1	2.9	0-8

AFTER EXTRACTION(Trail-2)

Weight of Sample : 485 Grams

IS Sieve Size(mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Specification Limits as per MORTH specification Table 500-7(grading -2)
26.5	0	0	0.0	100.0	100
19	36	36	7.4	92.6	90-100
13.2	149	185	38.1	61.9	56-88
4.75	192	377	77.7	22.3	16-36
2.36	33	410	84.5	15.5	4-19
0.3	29	439	90.5	9.5	2-10
0.075	31	470	96.9	3.1	0-8

* The results obtained are satisfactory as per standard requirements.

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TEST RESULTS OF BITUMEN BINDAR CONTENT AND GRADATION FOR BM (IS 2386:(Part 1) 1963 (RA2011)

Lab ID : **CP-2023-07-17-24** **Date: 28-06-23**

Project Name : Improvements and Restoration of Roads in Ward NO. 05 (Package 01) (Package Consists of 6 Works).

Agency : Sri.K.R Santhosh Kumar , No:4, Samrudhi, AVR Block 1st, A Main , Dhanalakshmi Layout, Virupakshapura, Bangalore-560097

Customer Reference : BBMP/EE/BTP/WO/48/2022-23

Date of Receipt : 27-06-23

Type of Mix : BM (Bituminous Macadam) - 3rd Cross Road

Date of test : 27-06-23

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	W1	500	500
2	Weight of the sample After extraction	W2	484.5	484
3	Initial weight of Paper	W3	4	4
4	Final weight of Paper	W4	6	6
5	Increase in weight of Filter Paper	W5=W4-W3	2	2
6	Bitumen percentage	$\frac{W1-W2+W5}{W1} \times 100$	3.5	3.60
7	Average percentage	%	3.55	

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Quality Manager

Date: 28-06-23

Lab ID : CP-2023-07-17-24

AFTER EXTRACTION(Trail-1)

Weight of Sample : 484.5 Grams

IS Sieve Size(mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Specification Limits as per MORTH specification Table 500-7(grading -2)
26.5	0	0	0.0	100.0	100
19	33	33	6.8	93.2	90-100
13.2	146	179	36.9	63.1	56-88
4.75	194	373	77.0	23.0	16-36
2.36	32	405	83.6	16.4	4-19
0.3	33	438	90.4	9.6	2-10
0.075	26	464	95.8	4.2	0-8

AFTER EXTRACTION(Trail-2)

Weight of Sample : 484 Grams

IS Sieve Size(mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Specification Limits as per MORTH specification Table 500-7(grading -2)
26.5	0	0	0.0	100.0	100
19	33	33	6.8	93.2	90-100
13.2	150	183	37.8	62.2	56-88
4.75	194	377	77.9	22.1	16-36
2.36	34	411	84.9	15.1	4-19
0.3	32	443	91.5	8.5	2-10
0.075	30	473	97.7	2.3	0-8

* The results obtained are satisfactory as per standard requirements.

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TEST RESULTS OF BITUMEN BINDAR CONTENT AND GRADATION FOR BM
(IS 2386:(Part 1) 1963 (RA2011)

Date: 28-06-23

Lab ID	:	**CP-2023-07-17-24**
Project Name	:	Improvements and Restoration of Roads in Ward NO. 05 (Package 01) (Package Consists of 6 Works).
Agency	:	Sri.K.R Santhosh Kumar , No:4, Samrudhi, AVR Block 1st, A Main , Dhanalakshmi Layout, Virupakshapura, Bangalore-560097
Customer Reference	:	BBMP/EE/BTP/WO/48/2022-23
Date of Receipt	:	27-06-23
Type of Mix	:	BM (Bituminous Macadam) - 4th Cross Road
Date of test	:	27-06-23

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	W1	500	500
2	Weight of the sample After extraction	W2	485	484.5
3	Initial weight of Paper	W3	4	4
4	Final weight of Paper	W4	6	6
5	Increase in weight of Filter Paper	W5=W4-W3	2	2
6	Bitumen percentage	$\frac{W1-W2+W5}{W1} \times 100$	3.4	3.50
7	Average percentage	%	3.45	

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Lab ID : CP-2023-07-17-24 Date: 28-06-23

AFTER EXTRACTION(Trail-1)

Weight of Sample : 485 Grams

IS Sieve Size(mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Specification Limits as per MORTH specification Table 500-7(grading -2)
26.5	0	0	0.0	100.0	100
19	36	36	7.4	92.6	90-100
13.2	154	190	39.2	60.8	56-88
4.75	193	383	79.0	21.0	16-36
2.36	38	421	86.8	13.2	4-19
0.3	27	448	92.4	7.6	2-10
0.075	17	465	95.9	4.1	0-8

AFTER EXTRACTION(Trail-2)

Weight of Sample : 484.5 Grams

IS Sieve Size(mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Specification Limits as per MORTH specification Table 500-7(grading -2)
26.5	0	0	0.0	100.0	100
19	34	34	7.0	93.0	90-100
13.2	149	183	37.8	62.2	56-88
4.75	195	378	78.0	22.0	16-36
2.36	34	412	85.0	15.0	4-19
0.3	35	447	92.3	7.7	2-10
0.075	13	460	94.9	5.1	0-8

* The results obtained are satisfactory as per standard requirements.

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TEST RESULTS OF BITUMEN BINDAR CONTENT AND GRADATION FOR BM
(IS 2386:(Part 1) 1963 (RA2011)

Date: 28-06-23

Lab ID	:	**CP-2023-07-17-24**
Project Name	:	Improvements and Restoration of Roads in Ward NO. 05 (Package 01) (Package Consists of 6 Works).
Agency	:	Sri.K.R Santhosh Kumar , No:4, Samrudhi, AVR Block 1st, A Main , Dhanalakshmi Layout, Virupakshapura, Bangalore-560097
Customer Reference	:	BBMP/EE/BTP/WO/48/2022-23
Date of Receipt	:	27-06-23
Type of Mix	:	BM (Bituminous Macadam) - 5th Cross Road
Date of test	:	27-06-23

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	W1	500	500
2	Weight of the sample After extraction	W2	485	484
3	Initial weight of Paper	W3	4	4
4	Final weight of Paper	W4	6	6
5	Increase in weight of Filter Paper	W5=W4-W3	2	2
6	Bitumen percentage	$\frac{W1-W2+W5}{W1}$ X 100	3.4	3.60
7	Average percentage	%	3.50	

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Lab ID : CP-2023-07-17-24 Date: 28-06-23

AFTER EXTRACTION(Trail-1)

Weight of Sample : 485 Grams

IS Sieve Size(mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Specification Limits as per MORTH specification Table 500-7(grading -2)
26.5	0	0	0.0	100.0	100
19	32	32	6.6	93.4	90-100
13.2	149	181	37.3	62.7	56-88
4.75	192	373	76.9	23.1	16-36
2.36	33	406	83.7	16.3	4-19
0.3	41	447	92.2	7.8	2-10
0.075	23	470	96.9	3.1	0-8

AFTER EXTRACTION(Trail-2)

Weight of Sample : 484 Grams

IS Sieve Size(mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Specification Limits as per MORTH specification Table 500-7(grading -2)
26.5	0	0	0.0	100.0	100
19	38	38	7.9	92.1	90-100
13.2	156	194	40.1	59.9	56-88
4.75	194	388	80.2	19.8	16-36
2.36	33	421	87.0	13.0	4-19
0.3	33	454	93.8	6.2	2-10
0.075	19	473	97.7	2.3	0-8

* The results obtained are satisfactory as per standard requirements.

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TEST RESULTS OF BITUMEN BINDAR CONTENT AND GRADATION FOR BM (IS 2386:(Part 1) 1963 (RA2011)

Lab ID	:	CP-2023-07-17-24	Date: 28-06-23
Project Name	:	Improvements and Restoration of Roads in Ward NO. 05 (Package 01) (Package Consists of 6 Works).	
Agency	:	Sri.K.R Santhosh Kumar , No:4, Samrudhi, AVR Block 1st, A Main , Dhanalakshmi Layout, Virupakshapura, Bangalore-560097	
Customer Reference	:	BBMP/EE/BTP/WO/48/2022-23	
Date of Receipt	:	27-06-23	
Type of Mix	:	BM (Bituminous Macadam) - Purpal Garden Apartment Road	
Date of test	:	27-06-23	

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	W1	500	500
2	Weight of the sample After extraction	W2	484.5	485
3	Initial weight of Paper	W3	4	4
4	Final weight of Paper	W4	6	6
5	Increase in weight of Filter Paper	W5=W4-W3	2	2
6	Bitumen percentage	$\frac{W1-W2+W5}{W1}$ X 100	3.5	3.40
7	Average percentage	%	3.45	

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Quality Manager

Lab ID : CP-2023-07-17-24 Date: 28-06-23

AFTER EXTRACTION(Trail-1)

Weight of Sample : 484.5 Grams

IS Sieve Size(mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Specification Limits as per MORTH specification Table 500-7(grading -2)
26.5	0	0	0.0	100.0	100
19	39	39	8.0	92.0	90-100
13.2	148	187	38.6	61.4	56-88
4.75	198	385	79.5	20.5	16-36
2.36	39	424	87.5	12.5	4-19
0.3	35	459	94.7	5.3	2-10
0.075	11	470	97.0	3.0	0-8

AFTER EXTRACTION(Trail-2)

Weight of Sample : 485 Grams

IS Sieve Size(mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Specification Limits as per MORTH specification Table 500-7(grading -2)
26.5	0	0	0.0	100.0	100
19	37	37	7.6	92.4	90-100
13.2	147	184	37.9	62.1	56-88
4.75	191	375	77.3	22.7	16-36
2.36	28	403	83.1	16.9	4-19
0.3	41	444	91.5	8.5	2-10
0.075	30	474	97.7	2.3	0-8

* The results obtained are satisfactory as per standard requirements.

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TEST RESULTS OF GRADATION FOR BC
IS 2386 (Part 1) 1963 (RA 2007)

Lab ID : CP-2023-07-17-24 Date: 03-02-23

Project Name : Improvements and Restoration of Roads in Ward NO. 05 (Package 01) (Package Consists of 6 Works).

Agency : Sri.K.R Santhosh Kumar , No:4, Samrudhi, AVR Block 1st, A Main , Dhanalakshmi Layout, Virupakshapura, Bangalore-560097

Customer Reference : BBMP/EE/BTP/WO/48/2022-23

Date of Receipt : 01-02-23

Type of Mix : BC-Plant (Bituminous Concrete)

Date of test : 01-02-23

Oven Dry Weight : 5000 Grams

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-17(grading-2)
19	0	0	0.0	100.0	100
13.2	83	83	1.7	98.3	90-100
9.5	597	680	13.6	86.4	70-88
4.75	910	1590	31.8	68.2	53-71
2.36	591	2181	43.6	56.4	42-58
1.18	502	2683	53.7	46.3	34-48
0.6	515	3198	64.0	36.0	26-38
0.3	545	3743	74.9	25.1	18-28
0.15	470	4213	84.3	15.7	12-20
0.075	391	4604	92.1	7.9	4-10
PAN	396	5000	100	0.0	0

* The results obtained are satisfactory as per standard requirements.

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TEST REPORT OF AGGEGRATE STRIPPING VALUE OF ROAD AGGRGATE (IS:6241)

Lab ID : **CP-2023-07-17-24** **Date: 04-02-23**

Project Name : Improvements and Restoration of Roads in Ward NO. 05 (Package 01) (Package Consists of 6 Works).

Agency : Sri.K.R Santhosh Kumar , No:4, Samrudhi, AVR Block 1st, A Main , Dhanalakshmi Layout, Virupakshapura, Bangalore-560097

Customer Reference : BBMP/EE/BTP/WO/48/2022-23

Date of Receipt : 01-02-23

Type of Mix : BC(Bitumenous Concrete)

Date of test : 01-02-23

Type of Binder : 60/70

% of Binder Used : 5.4%

Weight of Aggregate : 200.0 gm

Weight of Binder : 10.8 gm

Temperature of water bath : 40°C

No of test	Retained Stripping Percentage	Stripping Percentage	Average Retained Stripping Percentage	Secified limits as per MORTH specification table 500-8
1	98.5	1.5	98.3	Minimum Retained Coating 95%
2	98.5	1.5		
3	98.0	2.0		

* The results obtained are satisfactory as per standard requirements.

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CIVIL Pro Sig..... Date..... BANGALORE

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PHYSICAL REQUIREMENTS FOR COARSE AGGREGATE FOR BITUMINOUS CONCRETE

ab ID	:	CP-2023-07-17-24 **Date: 04-02-23**
oject Name	:	Improvements and Restoration of Roads in Ward NO. 05 (Package 01) (Package Consists of 6 Works).
gency	:	Sri.K.R Santhosh Kumar , No:4, Samrudhi, AVR Block 1st, A Main , Dhanalakshmi Layout, Virupakshapura, Bangalore-560097
stomer Reference	:	BBMP/EE/BTP/WO/48/2022-23
te of Receipt	:	01-02-23
pe of Mix	:	BC (Bituminous Concrete)
te of test	:	01-02-23

Table 500-16 : Physical Requirements fo Coarse Aggregate for Bituminous Concrete

Property	Test	Result	Specification	Method of Test
Partical Shape	Flakiness Index	12.6	Combined Flakiness & Elongation Index for BC is Maximum 35%	IS:2386 Part I
	Elongation Index	11.7		
Strength	Aggregate Impact Value	22.3	Maximum 24%	IS:2386 Part IV
Specific gravity	Specific gravity	2.67	Maximum 2.7	IS:2386 Part III
Water Absorption	Water Absorption	0.22	Maximum 2%	IS:2386 Part III

he results obtained are satisfactory as per standard requirements.

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TESTS RESULTS ON STABILITY OF MIX

Lab ID	:	CP-2023-07-17-24 **Date: 04-02-23**
Project Name	:	Improvements and Restoration of Roads in Ward NO. 05 (Package 01) (Package Consists of 6 Works).
Agency	:	Sri.K.R Santhosh Kumar , No:4, Samrudhi, AVR Block 1st, A Main , Dhanalakshmi Layout, Virupakshapura, Bangalore-560097
Customer Reference	:	BBMP/EE/BTP/WO/48/2022-23
Date of Receipt	:	01-02-23
Type of Mix	:	BC (Bituminous Concrete)
Date of test	:	01-02-23

The results of the tests conducted on the Bituminous Concrete mix sample are as follow

Sl.No	Particulars of observations	TEST 1	TEST 2	Secified limits as per MORTH specification table 500-11
1	Marshal Stability at 60°C, KN	11.14	11.13	10KN(min)
2	Marshal flow at 60°C, mm	3.52	3.51	2-4
3	Percent air Voids	4.82	4.83	3-5
4	Percent Voids in mineral Aggregate(VMA %)	14.28	14.26	13-15
5	Percent Voids filled with Bitumen(VFB %)	71.87	71.63	65-75
6	Density, g/cc	2.25	2.26	–

* The results obtained are satisfactory as per standard requirements.

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TEST RESULTS OF BITUMEN BINDAR CONTENT AND GRADATION FOR BC
IS 2386 (Part 1) 1963 (RA 2011)

Lab ID : **CP-2023-07-17-24** **Date: 08-02-23**

Project Name : Improvements and Restoration of Roads in Ward NO. 05 (Package 01) (Package Consists of 6 Works).

Agency : Sri.K.R Santhosh Kumar , No:4, Samrudhi, AVR Block 1st, A Main , Dhanalakshmi Layout, Virupakshapura, Bangalore-560097

Customer Reference : BBMP/EE/BTP/WO/48/2022-23

Date of Receipt : 07-02-23

Type of Mix : BC (Bituminous Concrete) - Nisarga Layout, 7th Cross, Zayan Travels Car Service Center Road

Date of test : 07-02-23

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	W1	500	500
2	Weight of the sample After extraction	W2	475	474.5
3	Initial weight of Paper	W3	4	4
4	Final weight of Paper	W4	6	6
5	Increase in weight of Filter Paper	W5=W4-W3	2	2
6	Bitumen percentage	$\frac{W1-W2+W5}{W1} \times 100$	5.40	5.50
7	Average percentage	%	5.45	

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HIGHWAY & BUILDING MATERIALS TESTING LABORATORY | STRUCTURAL | ENVIRONMENTAL
WATER TESTING | GEO TECHNICAL | PROJECT MANAGEMENT | SURVEYING SERVICES

Lab ID : CP-2023-07-17-24 Date: 08-02-23

AFTER EXTRACTION - Trail-1

Total Weight of the Sample(gm) : 475

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-17(grading-2)
19	0	0	0.0	100.0	100
13.2	7	7	1.5	98.5	90-100
9.5	64	71	14.9	85.1	70-88
4.75	114	185	38.9	61.1	53-71
2.36	75	260	54.7	45.3	42-58
1.18	31	291	61.3	38.7	34-48
0.6	12	303	63.8	36.2	26-38
0.3	48	351	73.9	26.1	18-28
0.15	51	402	84.6	15.4	12-20
0.075	39	441	92.8	7.2	4-10

AFTER EXTRACTION - Trail-2

Total Weight of the Sample(gm) : 474.5

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-17(grading-2)
19	0	0	0.0	100.0	100
13.2	9	9	1.9	98.1	90-100
9.5	63	72	15.2	84.8	70-88
4.75	110	182	38.4	61.6	53-71
2.36	86	268	56.5	43.5	42-58
1.18	32	300	63.2	36.8	34-48
0.6	12	312	65.8	34.2	26-38
0.3	45	357	75.2	24.8	18-28
0.15	50	407	85.8	14.2	12-20
0.075	38	445	93.8	6.2	4-10

* The results obtained are satisfactory as per standard requirements.

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Quality Manager

End of Report

TEST RESULTS OF BITUMEN BINDAR CONTENT AND GRADATION FOR BC
IS 2386 (Part 1) 1963 (RA 2011)

Lab ID	:	CP-2023-07-17-24
		Date: 06-02-23
Project Name	:	Improvements and Restoration of Roads in Ward NO. 05 (Package 01) (Package Consists of 6 Works).
Agency	:	Sri.K.R Santhosh Kumar , No:4, Samrudhi, AVR Block 1st, A Main , Dhanalakshmi Layout, Virupakshapura, Bangalore-560097
Customer Reference	:	BBMP/EE/BTP/WO/48/2022-23
Date of Receipt	:	04-02-23
Type of Mix	:	BC (Bituminous Concrete) - 5th Cross
Date of test	:	04-02-23

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	W1	500	500
2	Weight of the sample After extraction	W2	475	474
3	Initial weight of Paper	W3	4	4
4	Final weight of Paper	W4	6	6
5	Increase in weight of Filter Paper	W5=W4-W3	2	2
6	Bitumen percentage	$\frac{W1-W2+W5}{W1} \times 100$	5.40	5.60
7	Average percentage	%	5.50	

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Lab ID : CP-2023-07-17-24 Date: 06-02-23

AFTER EXTRACTION - Trail-1

Total Weight of the Sample(gm) : 475

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-17(grading-2)
19	0	0	0.0	100.0	100
13.2	6	6	1.3	98.7	90-100
9.5	61	67	14.1	85.9	70-88
4.75	114	181	38.1	61.9	53-71
2.36	87	268	56.4	43.6	42-58
1.18	31	299	62.9	37.1	34-48
0.6	12	311	65.5	34.5	26-38
0.3	55	366	77.1	22.9	18-28
0.15	36	402	84.6	15.4	12-20
0.075	45	447	94.1	5.9	4-10

AFTER EXTRACTION - Trail-2

Total Weight of the Sample(gm) : 474

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-17(grading-2)
19	0	0	0.0	100.0	100
13.2	8	8	1.7	98.3	90-100
9.5	64	72	15.2	84.8	70-88
4.75	113	185	39.0	61.0	53-71
2.36	84	269	56.8	43.2	42-58
1.18	25	294	62.0	38.0	34-48
0.6	13	307	64.8	35.2	26-38
0.3	48	355	74.9	25.1	18-28
0.15	46	401	84.6	15.4	12-20
0.075	40	441	93.0	7.0	4-10

* The results obtained are satisfactory as per standard requirements.

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End of Report

TEST RESULTS OF BITUMEN BINDAR CONTENT AND GRADATION FOR BC
IS 2386 (Part 1) 1963 (RA 2011)

Lab ID : **CP-2023-07-17-24** **Date: 09-02-23**

Project Name : Improvements and Restoration of Roads in Ward NO. 05 (Package 01) (Package Consists of 6 Works).

Agency : Sri.K.R Santhosh Kumar , No:4, Samrudhi, AVR Block 1st, A Main , Dhanalakshmi Layout, Virupakshapura, Bangalore-560097

Customer Reference : BBMP/EE/BTP/WO/48/2022-23

Date of Receipt : 08-02-23

Type of Mix : BC (Bituminous Concrete) - Mithun White Pearl Apartment Road

Date of test : 08-02-23

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	W1	500	500
2	Weight of the sample After extraction	W2	474.5	475
3	Initial weight of Paper	W3	4	4
4	Final weight of Paper	W4	6	6
5	Increase in weight of Filter Paper	W5=W4-W3	2	2
6	Bitumen percentage	$\frac{W1-W2+W5}{W1}$ X 100	5.50	5.40
7	Average percentage	%	5.45	

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Quality Manager

Lab ID : **CP-2023-07-17-24** **Date: 09-02-23**

AFTER EXTRACTION - Trail-1

Total Weight of the Sample(gm) : 474.5

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-17(grading-2)
19	0	0	0.0	100.0	100
13.2	8	8	1.7	98.3	90-100
9.5	65	73	15.4	84.6	70-88
4.75	115	188	39.6	60.4	53-71
2.36	82	270	56.9	43.1	42-58
1.18	27	297	62.6	37.4	34-48
0.6	22	319	67.2	32.8	26-38
0.3	42	361	76.1	23.9	18-28
0.15	45	406	85.6	14.4	12-20
0.075	39	445	93.8	6.2	4-10

AFTER EXTRACTION - Trail-2

Total Weight of the Sample(gm) : 475

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-17(grading-2)
19	0	0	0.0	100.0	100
13.2	7	7	1.5	98.5	90-100
9.5	67	74	15.6	84.4	70-88
4.75	116	190	40.0	60.0	53-71
2.36	76	266	56.0	44.0	42-58
1.18	25	291	61.3	38.7	34-48
0.6	19	310	65.3	34.7	26-38
0.3	49	359	75.6	24.4	18-28
0.15	47	406	85.5	14.5	12-20
0.075	38	444	93.5	6.5	4-10

* The results obtained are satisfactory as per standard requirements.

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TEST RESULTS OF BITUMEN BINDAR CONTENT AND GRADATION FOR BC
IS 2386 (Part 1) 1963 (RA 2011)

Lab ID : **CP-2023-07-17-24** **Date: 30-06-23**

Project Name : Improvements and Restoration of Roads in Ward NO. 05 (Package 01) (Package Consists of 6 Works).

Agency : Sri.K.R Santhosh Kumar , No:4, Samrudhi, AVR Block 1st, A Main , Dhanalakshmi Layout, Virupakshapura, Bangalore-560097

Customer Reference : BBMP/EE/BTP/WO/48/2022-23

Date of Receipt : 28-06-23

Type of Mix : BC (Bituminous Concrete) - Venkateshwara Nagar Mituna Apartment Opp Road

Date of test : 28-06-23

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	W1	500	500
2	Weight of the sample After extraction	W2	474	475
3	Initial weight of Paper	W3	4	4
4	Final weight of Paper	W4	6	6
5	Increase in weight of Filter Paper	W5=W4-W3	2	2
6	Bitumen percentage	$\frac{W1-W2+W5}{W1} \times 100$	5.60	5.40
7	Average percentage	%	5.50	

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Lab ID : CP-2023-07-17-24 Date: 30-06-23

AFTER EXTRACTION - Trail-1

Total Weight of the Sample(gm) : 474

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-17(grading-2)
19	0	0	0.0	100.0	100
13.2	5	5	1.1	98.9	90-100
9.5	69	74	15.6	84.4	70-88
4.75	117	191	40.3	59.7	53-71
2.36	74	265	55.9	44.1	42-58
1.18	32	297	62.7	37.3	34-48
0.6	15	312	65.8	34.2	26-38
0.3	49	361	76.2	23.8	18-28
0.15	48	409	86.3	13.7	12-20
0.075	38	447	94.3	5.7	4-10

AFTER EXTRACTION - Trail-2

Total Weight of the Sample(gm) : 475

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-17(grading-2)
19	0	0	0.0	100.0	100
13.2	10	10	2.1	97.9	90-100
9.5	63	73	15.4	84.6	70-88
4.75	110	183	38.5	61.5	53-71
2.36	76	259	54.5	45.5	42-58
1.18	33	292	61.5	38.5	34-48
0.6	15	307	64.6	35.4	26-38
0.3	49	356	74.9	25.1	18-28
0.15	50	406	85.5	14.5	12-20
0.075	40	446	93.9	6.1	4-10

* The results obtained are satisfactory as per standard requirements.

CIVIL Pro Sig..... Date..... BANGALORE

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TEST RESULTS OF BITUMEN BINDAR CONTENT AND GRADATION FOR BC
IS 2386 (Part 1) 1963 (RA 2011)

Lab ID	:	CP-2023-07-17-24	Date: 30-06-23
Project Name	:	Improvements and Restoration of Roads in Ward NO. 05 (Package 01) (Package Consists of 6 Works).	
Agency	:	Sri.K.R Santhosh Kumar , No:4, Samrudhi, AVR Block 1st, A Main , Dhanalakshmi Layout, Virupakshapura, Bangalore-560097	
Customer Reference	:	BBMP/EE/BTP/WO/48/2022-23	
Date of Receipt	:	28-06-23	
Type of Mix	:	BC (Bituminous Concrete) - 3rd Cross Road	
Date of test	:	28-06-23	

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	W1	500	500
2	Weight of the sample After extraction	W2	474.5	474
3	Initial weight of Paper	W3	4	4
4	Final weight of Paper	W4	6	6
5	Increase in weight of Filter Paper	W5=W4-W3	2	2
6	Bitumen percentage	$\frac{W1-W2+W5}{W1} \times 100$	5.50	5.60
7	Average percentage	%	5.55	

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CIVIL Pro Sig..... Date..... BANGALORE

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WATER TESTING | GEO TECHNICAL | PROJECT MANAGEMENT | SURVEYING SERVICES

Lab ID : CP-2023-07-17-24 Date: 30-06-23

AFTER EXTRACTION - Trail-1

Total Weight of the Sample(gm) : 474.5

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-17(grading-2)
19	0	0	0.0	100.0	100
13.2	9	9	1.9	98.1	90-100
9.5	66	75	15.8	84.2	70-88
4.75	111	186	39.2	60.8	53-71
2.36	84	270	56.9	43.1	42-58
1.18	25	295	62.2	37.8	34-48
0.6	13	308	64.9	35.1	26-38
0.3	47	355	74.8	25.2	18-28
0.15	50	405	85.4	14.6	12-20
0.075	36	441	92.9	7.1	4-10

AFTER EXTRACTION - Trail-2

Total Weight of the Sample(gm) : 474

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-17(grading-2)
19	0	0	0.0	100.0	100
13.2	6	6	1.3	98.7	90-100
9.5	64	70	14.8	85.2	70-88
4.75	114	184	38.8	61.2	53-71
2.36	82	266	56.1	43.9	42-58
1.18	28	294	62.0	38.0	34-48
0.6	22	316	66.7	33.3	26-38
0.3	40	356	75.1	24.9	18-28
0.15	41	397	83.8	16.2	12-20
0.075	50	447	94.3	5.7	4-10

* The results obtained are satisfactory as per standard requirements.

CIVIL Pro Sig..... Date..... BANGALORE

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TEST RESULTS OF BITUMEN BINDAR CONTENT AND GRADATION FOR BC
IS 2386 (Part 1) 1963 (RA 2011)

Lab ID : **CP-2023-07-17-24** **Date: 30-06-23**

Project Name : Improvements and Restoration of Roads in Ward NO. 05 (Package 01) (Package Consists of 6 Works).

Agency : Sri.K.R Santhosh Kumar , No:4, Samrudhi, AVR Block 1st, A Main , Dhanalakshmi Layout, Virupakshapura, Bangalore-560097

Customer Reference : BBMP/EE/BTP/WO/48/2022-23

Date of Receipt : 28-06-23

Type of Mix : BC (Bituminous Concrete) - 4th Cross Road

Date of test : 28-06-23

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	W1	500	500
2	Weight of the sample After extraction	W2	474	474.5
3	Initial weight of Paper	W3	4	4
4	Final weight of Paper	W4	6	6
5	Increase in weight of Filter Paper	W5=W4-W3	2	2
6	Bitumen percentage	$\frac{W1-W2+W5}{W1}$ X 100	5.60	5.50
7	Average percentage	%	5.55	

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Lab ID : **CP-2023-07-17-24** **Date: 30-06-23**

AFTER EXTRACTION - Trail-1

Total Weight of the Sample(gm) : 474

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-17(grading-2)
19	0	0	0.0	100.0	100
13.2	10	10	2.1	97.9	90-100
9.5	65	75	15.8	84.2	70-88
4.75	108	183	38.6	61.4	53-71
2.36	80	263	55.5	44.5	42-58
1.18	35	298	62.9	37.1	34-48
0.6	21	319	67.3	32.7	26-38
0.3	44	363	76.6	23.4	18-28
0.15	38	401	84.6	15.4	12-20
0.075	43	444	93.7	6.3	4-10

AFTER EXTRACTION - Trail-2

Total Weight of the Sample(gm) : 474.5

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-17(grading-2)
19	0	0	0.0	100.0	100
13.2	11	11	2.3	97.7	90-100
9.5	63	74	15.6	84.4	70-88
4.75	107	181	38.1	61.9	53-71
2.36	86	267	56.3	43.7	42-58
1.18	33	300	63.2	36.8	34-48
0.6	15	315	66.4	33.6	26-38
0.3	47	362	76.3	23.7	18-28
0.15	42	404	85.1	14.9	12-20
0.075	48	452	95.3	4.7	4-10

* The results obtained are satisfactory as per standard requirements.

CIVIL Pro Sig..... Date..... BANGALORE

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TEST RESULTS OF BITUMEN BINDAR CONTENT AND GRADATION FOR BC
IS 2386 (Part 1) 1963 (RA 2011)

Lab ID	:	**CP-2023-07-17-24**	**Date: 30-06-23**
Project Name	:	Improvements and Restoration of Roads in Ward NO. 05 (Package 01) (Package Consists of 6 Works).	
Agency	:	Sri.K.R Santhosh Kumar , No:4, Samrudhi, AVR Block 1st, A Main , Dhanalakshmi Layout, Virupakshapura, Bangalore-560097	
Customer Reference	:	BBMP/EE/BTP/WO/48/2022-23	
Date of Receipt	:	28-06-23	
Type of Mix	:	BC (Bituminous Concrete) - 5th Cross Road	
Date of test	:	28-06-23	

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	W1	500	500
2	Weight of the sample After extraction	W2	474.5	474
3	Initial weight of Paper	W3	4	4
4	Final weight of Paper	W4	6	6
5	Increase in weight of Filter Paper	W5=W4-W3	2	2
6	Bitumen percentage	$\frac{W1-W2+W5}{W1}$ X 100	5.50	5.60
7	Average percentage	%	5.55	

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Lab ID : CP-2023-07-17-24

Date: 30-06-23

AFTER EXTRACTION - Trail-1

Total Weight of the Sample(gm) : 474.5

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-17(grading-2)
19	0	0	0.0	100.0	100
13.2	11	11	2.3	97.7	90-100
9.5	65	76	16.0	84.0	70-88
4.75	115	191	40.3	59.7	53-71
2.36	71	262	55.2	44.8	42-58
1.18	36	298	62.8	37.2	34-48
0.6	20	318	67.0	33.0	26-38
0.3	50	368	77.6	22.4	18-28
0.15	39	407	85.8	14.2	12-20
0.075	34	441	92.9	7.1	4-10

AFTER EXTRACTION - Trail-2

Total Weight of the Sample(gm) : 474

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-17(grading-2)
19	0	0	0.0	100.0	100
13.2	12	12	2.5	97.5	90-100
9.5	55	67	14.1	85.9	70-88
4.75	109	176	37.1	62.9	53-71
2.36	91	267	56.3	43.7	42-58
1.18	33	300	63.3	36.7	34-48
0.6	17	317	66.9	33.1	26-38
0.3	48	365	77.0	23.0	18-28
0.15	31	396	83.5	16.5	12-20
0.075	44	440	92.8	7.2	4-10

* The results obtained are satisfactory as per standard requirements.

CIVIL Pro Sig..... Date..... BANGALORE

FOR CIVIL Pro.

R KARTHIK RECHAN
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Quality Manager

End of Report

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HIGHWAY & BUILDING MATERIALS TESTING LABORATORY | STRUCTURAL | ENVIRONMENTAL
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CIVIL PRO
AN ISO 9001 : 2008 COMPANY & ACCREDITED LABORATORY AS PER ISO/IEC 17025:2017
4, 7TH MAIN MALLESWARAM, BANGALORE -3

TEST RESULTS OF BITUMEN BINDAR CONTENT AND GRADATION FOR BC
IS 2386 (Part 1) 1963 (RA 2011)

Lab ID : CP-2023-07-17-24

Date: 01-07-23

Project Name : Improvements and Restoration of Roads in Ward NO. 05 (Package 01) (Package Consists of 6 Works).

Agency : Sri.K.R Santhosh Kumar , No:4, Samrudhi, AVR Block 1st, A Main , Dhanalakshmi Layout, Virupakshapura, Bangalore-560097

Customer Reference : BBMP/EE/BTP/WO/48/2022-23

Date of Receipt : 28-06-23

Type of Mix : BC (Bituminous Concrete) - Purpal Garden Apartment Road

Date of test : 28-06-23

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	W1	500	500
2	Weight of the sample After extraction	W2	474	474.5
3	Initial weight of Paper	W3	4	4
4	Final weight of Paper	W4	6	6
5	Increase in weight of Filter Paper	W5=W4-W3	2	2
6	Bitumen percentage	$\frac{W1-W2+W5}{W1}$ X 100	5.60	5.50
7	Average percentage	%	5.55	

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WATER TESTING | GEO TECHNICAL | PROJECT MANAGEMENT | SURVEYING SERVICES

: CP-2023-07-17-24 Date: 01-07-23

AFTER EXTRACTION - Trail-1

Lab ID : 474

Total Weight of the Sample(gm)

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-17(grading-2)
	0	0	0.0	100.0	100
19	13	13	2.7	97.3	90-100
13.2	69	82	17.3	82.7	70-88
9.5	105	187	39.5	60.5	53-71
4.75	86	273	57.6	42.4	42-58
2.36	28	301	63.5	36.5	34-48
1.18	35	336	70.9	29.1	26-38
0.6	55	391	82.5	17.5	18-28
0.3	20	411	86.7	13.3	12-20
0.15	29	440	92.8	7.2	4-10
0.075					

AFTER EXTRACTION - Trail-2

Total Weight of the Sample(gm) : 474.5

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-17(grading-2)
	0	0	0.0	100.0	100
19	5	5	1.1	98.9	90-100
13.2	60	65	13.7	86.3	70-88
9.5	108	173	36.5	63.5	53-71
4.75	94	267	56.3	43.7	42-58
2.36	39	306	64.5	35.5	34-48
1.18	14	320	67.4	32.6	26-38
0.6	50	370	78.0	22.0	18-28
0.3	36	406	85.6	14.4	12-20
0.15	38	444	93.6	6.4	4-10
0.075					

* The results obtained are satisfactory as per standard requirements.

CIVIL Pro Sig..... Date..... BANGALORE

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Quality Manager

End of Report

DETERMINATION OF RATE OF SPREAD TACK COAT

Lab ID : **CP-2023-07-17-24** **Date: 08-02-23**

Project Name : Improvements and Restoration of Roads in Ward NO. 05 (Package 01) (Package Consists of 6 Works).

Agency : Sri.K.R Santhosh Kumar , No:4, Samrudhi, AVR Block 1st, A Main , Dhanalakshmi Layout, Virupakshapura, Bangalore-560097

Customer Reference : BBMP/EE/BTP/WO/48/2022-23

Date of Receipt : 07-02-23

Type of Mix : Tack coat

Date of test : 07-02-23

Sl.No	Determination	Unit	TEST 1	TEST 2
1	Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30
2	Area of Plate (a)	Sq.mtr	0.09	0.09
3	Initial Wt of empty Plate (b)	Kg	0.78	0.748
4	Final weight of plate after application of tack Coat (c)	Kg	0.802	0.771
5	Weight of tack Coat (d=c-b)	Kg	0.022	0.023
6	Rate of spread of tack coat	Kg/sq.m	0.244	0.256
7	Average	Kg/sq.m	0.250	
8	Specified Limit	Kg/sq.m	0.250 Kg/sq.m	

* The results obtained are satisfactory as per standard requirements.

CIVIL Pro Sig..... Date..... BANGALORE

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DETERMINATION OF RATE OF SPREAD TACK COAT

Lab ID : **CP-2023-07-17-24** **Date: 06-02-23**

Project Name : Improvements and Restoration of Roads in Ward NO. 05 (Package 01) (Package Consists of 6 Works).

Agency : Sri.K.R Santhosh Kumar , No:4, Samrudhi, AVR Block 1st, A Main , Dhanalakshmi Layout, Virupakshapura, Bangalore-560097

Customer Reference : BBMP/EE/BTP/WO/48/2022-23

Date of Receipt : 04-02-23

Type of Mix : Tack coat

Date of test : 04-02-23

Sl.No	Determination	Unit	TEST 1	TEST 2
1	Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30
2	Area of Plate (a)	Sq.mtr	0.09	0.09
3	Initial Wt of empty Plate (b)	Kg	0.78	0.748
4	Final weight of plate after application of tack Coat (c)	Kg	0.804	0.773
5	Weight of tack Coat (d=c-b)	Kg	0.024	0.025
6	Rate of spread of tack coat	Kg/sq.m	0.267	0.278
7	Average	Kg/sq.m	0.272	
8	Specified Limit	Kg/sq.m	0.250 Kg/sq.m	

* The results obtained are satisfactory as per standard requirements.

CIVIL Pro Sig..... Date..... BANGALORE

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DETERMINATION OF RATE OF SPREAD TACK COAT

Lab ID : **CP-2023-07-17-24** **Date: 09-02-23**

Project Name : Improvements and Restoration of Roads in Ward NO. 05 (Package 01) (Package Consists of 6 Works).

Agency : Sri.K.R Santhosh Kumar , No:4, Samrudhi, AVR Block 1st, A Main , Dhanalakshmi Layout, Virupakshapura, Bangalore-560097

Customer Reference : BBMP/EE/BTP/WO/48/2022-23

Date of Receipt : 08-02-23

Type of Mix : Tack coat

Date of test : 08-02-23

Sl.No	Determination	Unit	TEST 1	TEST 2
1	Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30
2	Area of Plate (a)	Sq.mtr	0.09	0.09
3	Initial Wt of empty Plate (b)	Kg	0.78	0.748
4	Final weight of plate after application of tack Coat (c)	Kg	0.801	0.771
5	Weight of tack Coat (d=c-b)	Kg	0.021	0.023
6	Rate of spread of tack coat	Kg/sq.m	0.233	0.256
7	Average	Kg/sq.m	0.244	
8	Specified Limit	Kg/sq.m	0.250 Kg/sq.m	

* The results obtained are satisfactory as per standard requirements.

CIVIL Pro Sig..... Date..... BANGALORE

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DETERMINATION OF RATE OF SPREAD TACK COAT

Lab ID : **CP-2023-07-17-24** **Date: 30-06-23**

Project Name : Improvements and Restoration of Roads in Ward NO. 05 (Package 01) (Package Consists of 6 Works).

Agency : Sri.K.R Santhosh Kumar , No:4, Samrudhi, AVR Block 1st, A Main , Dhanalakshmi Layout, Virupakshapura, Bangalore-560097

Customer Reference : BBMP/EE/BTP/WO/48/2022-23

Date of Receipt : 28-06-23

Type of Mix : Tack coat

Date of test : 28-06-23

Sl.No	Determination	Unit	TEST 1	TEST 2
1	Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30
2	Area of Plate (a)	Sq.mtr	0.09	0.09
3	Initial Wt of empty Plate (b)	Kg	0.78	0.748
4	Final weight of plate after application of tack Coat (c)	Kg	0.804	0.772
5	Weight of tack Coat (d=c-b)	Kg	0.024	0.024
6	Rate of spread of tack coat	Kg/sq.m	0.267	0.267
7	Average	Kg/sq.m	0.267	
8	Specified Limit	Kg/sq.m	0.250 Kg/sq.m	

* The results obtained are satisfactory as per standard requirements.

CIVIL Pro Sig..... Date..... BANGALORE

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DETERMINATION OF RATE OF SPREAD TACK COAT

Lab ID : **CP-2023-07-17-24** **Date: 30-06-23**

Project Name : Improvements and Restoration of Roads in Ward NO. 05 (Package 01) (Package Consists of 6 Works).

Agency : Sri.K.R Santhosh Kumar , No:4, Samrudhi, AVR Block 1st, A Main , Dhanalakshmi Layout, Virupakshapura, Bangalore-560097

Customer Reference : BBMP/EE/BTP/WO/48/2022-23

Date of Receipt : 28-06-23

Type of Mix : Tack coat

Date of test : 28-06-23

Sl.No	Determination	Unit	TEST 1	TEST 2
1	Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30
2	Area of Plate (a)	Sq.mtr	0.09	0.09
3	Initial Wt of empty Plate (b)	Kg	0.78	0.748
4	Final weight of plate after application of tack Coat (c)	Kg	0.802	0.772
5	Weight of tack Coat (d=c-b)	Kg	0.022	0.024
6	Rate of spread of tack coat	Kg/sq.m	0.244	0.267
7	Average	Kg/sq.m	0.256	
8	Specified Limit	Kg/sq.m	0.250 Kg/sq.m	

* The results obtained are satisfactory as per standard requirements.

CIVIL Pro Sig..... Date..... BANGALORE

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DETERMINATION OF RATE OF SPREAD TACK COAT

Date: 30-06-23

Lab ID : **CP-2023-07-17-24**

Project Name : Improvements and Restoration of Roads in Ward NO. 05 (Package 01) (Package Consists of 6 Works).

Agency : Sri.K.R Santhosh Kumar , No:4, Samrudhi, AVR Block 1st, A Main , Dhanalakshmi Layout, Virupakshapura, Bangalore-560097

Customer Reference : BBMP/EE/BTP/WO/48/2022-23

Date of Receipt : 28-06-23

Type of Mix : Tack coat

Date of test : 28-06-23

Sl.No	Determination	Unit	TEST 1	TEST 2
1	Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30
2	Area of Plate (a)	Sq.mtr	0.09	0.09
3	Initial Wt of empty Plate (b)	Kg	0.78	0.748
4	Final weight of plate after application of tack Coat (c)	Kg	0.804	0.771
5	Weight of tack Coat (d=c-b)	Kg	0.024	0.023
6	Rate of spread of tack coat	Kg/sq.m	0.267	0.256
7	Average	Kg/sq.m	0.261	
8	Specified Limit	Kg/sq.m	0.250 Kg/sq.m	

* The results obtained are satisfactory as per standard requirements.

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Quality Manager

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HIGHWAY & BUILDING MATERIALS TESTING LABORATORY | STRUCTURAL | ENVIRONMENTAL
WATER TESTING | GEO TECHNICAL | PROJECT MANAGEMENT | SURVEYING SERVICES

DETERMINATION OF RATE OF SPREAD TACK COAT

Lab ID	:	**CP-2023-07-17-24**	**Date: 30-06-23**
Project Name	:	Improvements and Restoration of Roads in Ward NO. 05 (Package 01) (Package Consists of 6 Works).	
Agency	:	Sri.K.R Santhosh Kumar , No:4, Samrudhi, AVR Block 1st, A Main , Dhanalakshmi Layout, Virupakshapura, Bangalore-560097	
Customer Reference	:	BBMP/EE/BTP/WO/48/2022-23	
Date of Receipt	:	28-06-23	
Type of Mix	:	Tack coat	
Date of test	:	28-06-23	

Sl.No	Determination	Unit	TEST 1	TEST 2
1	Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30
2	Area of Plate (a)	Sq.mtr	0.09	0.09
3	Initial Wt of empty Plate (b)	Kg	0.78	0.748
4	Final weight of plate after application of tack Coat (c)	Kg	0.801	0.77
5	Weight of tack Coat (d=c-b)	Kg	0.021	0.022
6	Rate of spread of tack coat	Kg/sq.m	0.233	0.244
7	Average	Kg/sq.m	0.239	
8	Specified Limit	Kg/sq.m	0.250 Kg/sq.m	

* The results obtained are satisfactory as per standard requirements.

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DETERMINATION OF RATE OF SPREAD TACK COAT

Lab ID : **CP-2023-07-17-24** **Date: 29-06-23**

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1	Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30
2	Area of Plate (a)	Sq.mtr	0.09	0.09
3	Initial Wt of empty Plate (b)	Kg	0.78	0.748
4	Final weight of plate after application of tack Coat (c)	Kg	0.805	0.773
5	Weight of tack Coat (d=c-b)	Kg	0.025	0.025
6	Rate of spread of tack coat	Kg/sq.m	0.278	0.278
7	Average	Kg/sq.m	0.278	
8	Specified Limit	Kg/sq.m	0.250 Kg/sq.m	

* The results obtained are satisfactory as per standard requirements.

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